

EFEM interview_ Prof. De Caro

Meeting Recording

Introduction

Franco Caterina

Hello everyone and welcome to our interview series on how body donation for anatomical examination is regulated in different countries.

Today, we have the pleasure of hosting Professor Raffaele De Caro, who is a Full Professor of anatomy at the University of Padua and is also the Director of the Center for the Conservation and Use of donated bodies in Veneto, he will take us through the regulation of anatomical donation in Italy.

Professor De Caro, please introduce yourself and tell us briefly about your past experience in being involved with cadaveric anatomy activities and your current involvement.

Raffaele De Caro

Thank you, Caterina, and good morning to all, and all the European Federation for Experimental Morphology. A short curriculum: I am a medical doctor and graduated here at the University of Padua.

Following my graduation I worked for four years in pathological anatomy in Padua and then for three years in forensic pathology, and my interest was in dissecting the human body.

This was used to dissect for clinical purposes in the pathologic anatomy and forensic purposes in the forensic pathology.

So I worked with the human body, for anatomical research, clinical diagnosis and forensic purposes, and my academic curriculum started in human anatomy in 1981 as a laureated technician.

Then, in 1983, I became an assistant professor; in 1999 as an associate professor and then a full professor of anatomy.

I've been the director of the Department of Anatomy and Physiology for nearly 14 years. And then the clinical department of Neurosciences, that collects all the clinical activities of neurosurgery, neurology, neuroradiology, psychiatry and so on.

Working in this department of Neuroscience as a clinical anatomist, I have been involved in the use of body donation not only for didactic purposes but also for

research and surgical training and I organized this center of body donation that was acknowledged by the Veneto region in 2019 and we started with a regular organization of the first part of the law that was realised in the following year. This was the collection of the bodies deriving from body donation and organising the second part planned in the law which is the use of this body for study, research and training.

So I am very proud to have organised this Center for Body Donation, in Padua we have a long tradition of the use of bodies for practical training for medical students and students of all the other categories.

Franco Caterina

Thank you very much, Professor De Caro.

We will hear more about this in the full interview, which will be published on the EFEM website, and you can follow the link associated with this video to view it.

Thank you.

Full interview

Paula Garcia Lopez (Biomedical Sciences)

Our first question is how long has donation of a body for anatomical examination been active in your country?

In this case, Italy, and how widespread is the knowledge that it is possible?

Raffaele De Caro - Unipd (Guest) 5:00

You know, really body donation in Italy has received the legal framework with the law n° 10 of 2020.

However, we have managed the body donation at the University of Padova since the early 80s and anticipating the national laws and providing inspiration to them.

Currently, the Italian Ministry of Health is working on dissemination program for increase the knowledge of this possibility to better inform the population or the possibility to donate about this to science nationwide.

So we have a long tradition in anatomy with Body donation.

There is a long story of use of body for a clinical purposes for confirming the cause of death or for research on specific course of that for the specific patient.

Paula Garcia Lopez (Biomedical Sciences) 6:07

Thank you.

So could you tell us who can accept a donation and how many donation centers are there in your country?

Raffaele De Caro - Unipd (Guest) 6:15

So this question is very interesting because now in Italy we have 11 centers, but if we go to the law, this says that we have the donation centers with a morgue, with refrigerators for receiving the bodies and an organization for a dissecting room and surgical rooms for the use of the bodies.

So among these 11 centers in Italy, many of them are interested in the use of bodies and are not really interested in the first part. That is the collection of the gifted bodies. 11 centers are now present in the national territory.

My idea was quite different according to my experience in North America because I thought that it would be more interesting to have a center in southern Italy, a second Center in Rome, a Center in Northeast and a Center in Northwest and another Center to the West Coast.

So this is for the collection of bodies, not for the use. This is very important because also collection of all bodies and the preservation of all this is very very important and this part of the reference center needs a very good organization because this Italian law (10 of 2020) was created with a surgical aim in the mind of people. So not interested in the acquisition of the body, but mainly in the use of the body for surgical training.

Anyway, we have 11 centers that have been appointed by the Ministry of Health.

Paula Garcia Lopez (Biomedical Sciences) 8:48

Great. Thank you.

So if a person wanted to donate their body, what would they need to do?

Raffaele De Caro - Unipd (Guest) 8:54

So, according to Italian law 10, there are two main actor players. That is the man who wants to make the gift and the trustee.

The last one is a person that will be in touch with the reference centers and with the Health Ministry for the national database for all these declarations. Now, if a person

works to make the gift and receives information about the aim of the law and then two trustees make the declaration of gift, this is received at the health system peripherally and transmitted to the Minister of Health. When that happens there is an interaction of the health system with the Center and we receive the information. Then we get in touch with the trustee that allows us to receive the body. So we are all medical doctor in this team and three of us are specialised in forensic medicine, and so all the activities concerning what happens following the declaration of death are realised and planned here at the level of the center. We have a room for observation of the body because the law involved in the use of bodies says that nobody can be used before 24 hours from death. We are now working at the level of the Minister of Health to use these bodies also for research and mainly in neurological search: we have to work for reducing the period of observation going to tools like electrocardiography and electroencephalography for being able to receive and to sample the brain and the spinal cord without postmortem modification.

Paula Garcia Lopez (Biomedical Sciences) 12:00

Yes, that makes a lot of sense.

And so can a relative or a friend donate a person's body after their death?

Raffaele De Caro - Unipd (Guest) 12:08

So the answer is no, but we need that real statement of this exercise for the gift. This follows the new law because when we worked before 2020, in the absence of a specific law, we went back to the law in 1933 of the Italian Kingdom and it was the law concerning the university system.

The body could be received from the Institute and department without a specific willingness to make the gift from the person and the aim was that the hygienic system should be sure that the body will not be abandoned without the funeral. Now the article of the law of 1933 has been banned, and only in the presence of a specific declaration from the donor and confirmation from the trustee, we can receive the body.

Following that, nobody can give the body of another person. I also have been the President of the European Association of Clinical anatomy, and now I am the Secretary in charge, and we decided not to receive bodies in our centers that were not previously donated by the living people.

Paula Garcia Lopez (Biomedical Sciences) 14:26

Great.

So it's body donation for anatomical examination, compatible with organ donation or a postmortem examination?

Raffaele De Caro - Unipd (Guest) 14:34

Yes, this is very important because organ donation is in our idea, the first useful gift that we can receive, so we are not in contrast with the organization that works for organ donation. Also, postmortem examination for clinical purposes does not exclude the possibility of receiving the body because we can use this body for the locomotor system dissection even if it should have been removed for organ donation, the heart, the lungs, the kidneys and all viscera that can be useful for living ill people. So, we receive the bodies also following sampling of the viscera. But I must say this: working as a forensic pathologist, so performing an autopsy, also in those cases when there is an interest of justice in performing the autopsy, this is secondary to organ donation.

So the cornea and the skin, also the skin can be donated before dissection even if the case is relevant for justice purposes.

Paula Garcia Lopez (Biomedical Sciences) 16:39

Thank you.

So, could you tell us a bit about what costs are involved in running a body donation program and using these bodies?

Raffaele De Caro - Unipd (Guest) 16:48

So, first, with the new Law 10 of 2020, there is that some money comes from the Ministry of Health, but all the centres should be autonomous in their activities.

This means that all the money that is needed for the use of a body should be autonomously bought from the centre. Anyway.

Most costs of running a body donation program are in the transportation of the body. This is asked also by the donor when he decides on the gift: who pays for the transportation?

Then, costs are in the storage and preservation in the refrigeration cells at minus 20 degrees, or at four degrees, according to the use we are planning for the different

bodies.

Then the fees for cremation and burial of the body.

We receive also money from companies that use the information of this social and ethical activity, and so we are sponsored also by private companies.

Paula Garcia Lopez (Biomedical Sciences) 18:33

Great.

Thank you.

So what information is requested from a potential donor and what are the acceptance criteria?

Raffaele De Caro - Unipd (Guest) 18:39

The information requested from a potential donor concerned the aim of the use of their body.

Usually, these people experience the period of assistance in the hospital where they were for a pathology and they want to be useful, giving the body for increasing the quality and excellence of the formation of future physicians and the improvement in the training curve of the surgeons. Or their experience of new devices for surgical purposes.

So they are interested in the knowledge of what is the utility of their body donation and in the criteria of acceptance of the body are usually that we received the body of people without infective diseases or contagious diseases.

These are the main limitations to acquiring the body, but a new thing is that we are in contact with associations for research in specific pathologies, and so we receive also donations limited to the district of the body affected by pathologies that people suffer in life.

So we received the donation of the brain and not of the whole body, from people who suffered from Alzheimer's disease or Parkinson's disease.

This is one of the main aspects of the law because we are involved with neurological research and people ask for a data bank for this receiving and being able to receive the specimens coming from specific pathology, this is useful and gives a nationwide utility of the donation, even if it is limited and restricted to one district of the body like the brain or the heart, and so on.

Paula Garcia Lopez (Biomedical Sciences) 21:34

Great.

Thank you.

How long are the remains allowed to be kept in anatomical institutions before being buried or cremated?

Raffaele De Caro - Unipd (Guest) 21:45

This is really the problem of the new law. Because the law 10 of 2020 states that the period is 12 months, one year.

But we used to receive donations for the permanent use of all the body in the past. So we are working now to change the possibility of the use of the body in specific cases with a prolonged period not just a single year.

I am sure that the body can be used by the surgeons, from the pathologist, from the forensic. There is always a full-term user of the body, and we have to remember that actually in Italy the law was created by surgeons, who were interested in a timely restricted period of the use of the body. But using that law we are now trying to change with the aim of the complete use of the body and so to go to the volunteer use of the donor, to be useful from all the points of view, not a restricted use for specific surgical activity.

Paula Garcia Lopez (Biomedical Sciences) 23:37

Right.

And how is imaging regulated?

Raffaele De Caro - Unipd (Guest) 23:41

This is the problem: we asked the donor about the possibility of taking pictures of the body and only if they agreed, we are allowed in these, and they must sign an informed consent for this.

So we are allowed in this case to use for didactic or scientific purposes, the imaging of the dissection.

Paula Garcia Lopez (Biomedical Sciences) 24:24

Thank you.

So what happens to a body after the anatomical examination has been completed?

Raffaele De Caro - Unipd (Guest) 24:30

The new law wants that, at the end of the use of the body, a decent and respectful way of preparing the body is followed to give the body to the relatives if they want, or in any case, to use the body to preserve the respectability of the person.

So it is written in the law that, if the relatives want to receive the body, we concern to their relatives decently.

So it is important, in other cases, that we go to the burial or cremation of the body if there is not a disposition for restitution to the family or to their relatives.

Paula Garcia Lopez (Biomedical Sciences) 25:41

Thank you.

Are you able to tell us how many donations there are in average per year in the institution that you represent?

Raffaele De Caro - Unipd (Guest) 25:48

On average, we receive four to five expressions of interest by living subject per week, four or five per week.

But these are declarations. These are not body received.

As far as bodies donated and received, currently, we receive four to five bodies per month. And the main thing is that a publicity system and information system is not working now in Italy. It is not working because we are working as a reference center that gives information, but a real national publicity program is not working now in Italy and there is not a diffusion of this knowledge about body donation from the general population. So usually, people go to the net and work to identify some centres that can give them information.

But if we go to this public diffusion of the possibility for people that is interested to make the gift, the number will increase.

This really great number of people will be interested.

Paula Garcia Lopez (Biomedical Sciences) 27:38

Thank you.

I think you have mentioned this already, but could you just mention again which regulatory body oversees anatomical examination and what is the procedure for this?

Raffaele De Caro - Unipd (Guest) 27:50

So, the law was created by the health system.

So this is very important, it was not the result of activities of anatomy associations.

So we worked for a long period, but we were not able to arrive to allow a proposal or a law.

So the law comes from the surgeons in Italy and the surgeons are for the health ministry. So this law is regulated and overseen by the Ministry of Health and the peripheral centers are in touch with the health system of the single regions.

And so the regulation and the control of all the characteristics of the center all are under the oversee of the health system.

So when we were appointed as a reference center, this happened following the visit, the visit of inspectors coming from the Health ministry in Italy.

But I worked at that so called "table of the Health Ministry" for identified the logistical characteristics of the structure for receiving, preserving and using the bodies.

This is very important because otherwise, this is not the aim of the law.

We know that in some countries body parts or full bodies are bought for use for this purpose. This happens also in Italy and Europe; we are working, according to this law to create a social system that is informed of the possibility of making the gift and a health system that works for the excellence and increase of the activity of the medical doctor and the students, future medical doctors.

This is important because usually, we know the people who make the gift, so we are in a connection with the donors.

This is important, otherwise, you can use the body as a model or a tool. This is very important for us, and we have structured that. There are three professors of professor human anatomy who are medical doctors, and three associate professors of anatomy who are medical doctors and all of them specialised: in neurology, legal medicine, orthopedic surgery, in radiology.

So the team is also in connection with the health system.

As a center, you need clinical anatomy. That is the aim of the law.

Paula Garcia Lopez (Biomedical Sciences) 31:37

Thank you.

And I think you've touched on this already again, but how is licensing regulated at the level of the individual institutions?

Raffaele De Caro - Unipd (Guest) 31:46

The Ministry of Health licenses these body donation centers, and they're licensed each year, the minister verifies the eligibility of the Body Donation Center and evaluates their overall activity.

In the evaluation it's important to know how many bodies the centre receives. Not how many parts of bodies are bought from other countries.

This is the aim of the law.

The main aim is to give the possibility to people to make the gift.

This is one aspect. The other is the technical aspect: the experience and research on bodies.

Paula Garcia Lopez (Biomedical Sciences) 32:50

Great.

Can you tell me who can use the donated bodies?

Raffaele De Caro - Unipd (Guest) 32:54

So, in Italy, the body is donated for didactic and research purposes.

However, the correct law strongly forwards the use of donated bodies by surgeons, and in particular for surgical research and training.

Unfortunately, very few specimens are given to research, which however considered to be fundamental to this process, body and organ banking is a fundamental aspect of biomedical research.

So we are working on a biobanking of brains for neurodegenerative pathologies.

And we are in touch with the groups in Italy that are interested in different types of pathologies.

But the use of the bodies, as teachers of anatomy, we use this body during our activity for the students in medicine and all the other healthcare bachelors.

So for radiology, nursing, for physiotherapy, we use the body and following theoretical lessons we use the body and not only the teacher, but the students make the dissection themselves.

I started writing papers on this subject working with obstetrics and neurosurgical doctors to identify how to make useful the use of the body even if it is limited in the

number.

We do have not so great number of bodies available, but I'll make this economic activity and economic means a complete activity in the specific district that we are studying.

Paula Garcia Lopez (Biomedical Sciences) 35:29

Great.

Thank you.

And last but not least, could you highlight in a few words how important professional behaviour is in the anatomy room?

Raffaele De Caro - Unipd (Guest) 35:36

It is very important because when I started this activity I was interested mainly in the technical aspect of donation, but with the years now I am more interested in the ethical aspect of donation because the future medical doctor should consider their cadavers as their first patient.

So respect first of all, and that is something different in our European way of thinking about body donation, mainly Italy and Spain, maybe France, Germany, Austria and so on, because we do not act on the body before using it for dissection.

We do not cut the hair, do not remove what was typical of that specific person, now body. And so we want people is be in touch with this person, thinking that it was a person like we are now and a very generous person that wants to make this gift for being useful also following death. I think that showing respect is fundamental in the behaviour in the dissecting room, not only from the students but also from the teacher and technician who works daily with this particular type of didactic tool that could undergo a reduction of respect due to the continuity of and maybe also to some system that removes the concept of death. And so you can use the body as a model. I think it's very important to think that we must add a short description of the clinical story of that person, body, and cadaver when introducing to the people who will put the hand and the dissecting tools on that body.

Paula Garcia Lopez 38:43

Thank you very much Prof. De Caro.

Raffaele De Caro - Unipd (Guest)

Thank you